HRE PSE E1B

FIGURE 1

FIGURE 3

cgggc	togooga	gtaaaag	cage	gccgggt	gcccc	cccgg	gcgggagcgt	tcacg	agaag	ggcaa	agcttg	taaaatg	atgagtgagg	ctcctta	Ca	gcgat	ttgt	cagcctc	gtg	tgt	agaggcagca	ctcctagatt	acct	Q	gggcccaaaa	
cgtcatg	actaca	ggccggga	gtgg	gcgtta	gcca	ggggcg	<u> ဒီ၁</u> ဥ	agaagag	ggacagt	gaggatg	ctgggtga	cttgcag	aatg	gccacgaatt	tattgt	ccgc	atgggtc	tagct	tcatagctca	ttttttgtt	tgggcaat	9999	gcgcc	gteteett	ttagcaagtg	
. (gcc	tgcag	ctcggcggct	ga	gccgtaccgc	gagtcagacc	99	O	ggaa	gaggtgg	ggatagg	agcccga	caag	aggatgg	cgtctgttac	attacag	caccatg	cta	ctgcagcctc	ttagagacag	agga	cagatgga	gctctgggcc	tcacagtcta	accacgtggt	
(ccqccqcc	cgg	cgtggctctt	aaccgccgcc	cccgcgccgc	gcgcctggta	gttcccgtgt	aacctgca	agct	atggc	gggtgca	taccataga	atgctatacg	cag	tctgtt	Cg	gatcaggctg	cacgcca	gacttctcgg	a)	aatcc	aaggagt	agaccagtgt	cagcctc	tctgaagcca	
(ccgcctgtca	gc	tcgcggcaaa	gttgttcccg	CC		acgc	tatagaaagg	tgttgggggc	tgtgg	ttagga	tttccag	tgg	tctcca	cctgtcta	മ	gtctcgaact	tgcct	tcaage	gtagaca	gag	gtgtggt	gggagga	cttagcc	tggcctaa	
	cccgggccgc	atcga	aaggatttgg	CCG	gcccctc	cctgc	œ	_ ct	acaggttg	tac	tgtca	accgctct	ָ ללל	gtttgttg	actgtg	gcccaga	cctgggctca	(1	cctcccac	gtgtg	ctagaag	attggag	ctactga	tgtttctt	ccaccct	

FIGURE 4A

aagcttctag	ttttcttttc	ccggtgacat	cgtggaaagc	actagcatct	ctaagcaatg	60
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tctctgatga	agatattato	ttcatgatct	: tggattgaaa	acagacctac	tctggaggaa	1680

FIGURE 4B

catattgtat cgattgtcct tgacagtaaa caaatctgtt gtaagagaca ttatctttat 1740 tatctaggac agtaagcaag cctggatctg agagagatat catcttgcaa ggatgcctgc 1800 tttacaaaca tccttgaaac aacaatccag aaaaaaaaag gtgttgctgt ctttgctcag 1860 aagacacaca gatacgtgac agaaccatgg agaattgcct cccaacgctg ttcagccaga 1920 geettecace ettgtetgea ggacagtete aacgttecae cattaaatae ttettetate 1980 acatectget tetttatgee taaccaaggt tetaggteee gategactgt gtetggeage 2040 actccactgc caaacccaga ataaggcagc gctcaggatc ccgaaggggc atggctgggg 2100 atcagaactt ctgggtttga gtgaggagtg ggtccaccct cttgaatttc aaaggaggaa 2160 gaggetggat gtgaaggtac tgggggaggg aaagtgtcag ttccgaactc ttaggtcaat 2220 gagggaggag actggtaagg tcccagctcc cgaggtactg atgtgggaat ggcctaagaa 2280 teteatatee teaggaagaa ggtgetggaa teetgagggg tagagttetg ggtatatttg 2340 tggcttaagg ctctttggcc cctgaaggca gaggctggaa ccattaggtc cagggtttgg 2400 ggtgatagta atgggatete ttgatteete aagagtetga ggategaggg ttgeecatte 2460 ttccatcttg ccacctaatc cttactccac ttgagggtat caccagccct tctagctcca 2520 tgaaggtccc ctgggcaagc acaatctgag catgaaagat gccccagagg ccttgggtgt 2580 catccactca tcatccagca tcacactctg agggtgtggc cagcaccatg acgtcatgtt 2640 getgtgacta tecetgeage gtgeetetee agecacetge caacegtaga getgeecate 2700 ctcctctggt gggagtggcc tgcatggtgc caggctgagg cctagtgtca gacagggagc 2760 ctggaatcat agggatccag gactcaaaag tgctagagaa tggccatatg tcaccatcca 2820 tgaaatetea agggettetg ggtggaggge acagggaeet gaaettatgg ttteecaagt 2880 ctattgctct cccaagtgag tctcccagat acgaggcact gtgccagcat cagccttatc 2940 tccaccacat cttgtaaaag gactacccag ggccctgatg aacaccatgg tgtgtacagg 3000 agtagggggt ggaggcacgg actcctgtga ggtcacagcc aagggagcat catcatgggt 3060 ggggaggagg caatggacag gcttgagaac ggggatgtgg ttgtatttgg ttttctttgg 3120 ttagataaag tgctgggtat aggattgaga gtggagtatg aagaccagtt aggatggagg 3180 atcagattgg agttgggtta gataaagtgc tgggtatagg attgagagtg gagtatgaag 3240 accagttagg atggaggatc agattggagt tgggttagag atggggtaaa attgtgctcc 3300 ggatgagttt gggattgaca ctgtggaggt ggtttgggat ggcatggctt tgggatggaa 3360

FIGURE 4C

atagatttgt tttgatgttg gctcagacat ccttggggat tgaactgggg atgaagctgg 3420 gtttgatttt ggaggtagaa gacgtggaag tagctgtcag atttgacagt ggccatgagt 3480 tttgtttgat ggggaatcaa acaatggggg aagacataag ggttggcttg ttaggttaag 3540 ttgcgttggg ttgatggggt cggggctgtg tataatgcag ttggattggt ttgtattaaa 3600 ttgggttggg tcaggttttg gttgaggatg agttgaggat atgcttgggg acaccggatc 3660 catgaggttc tcactggagt ggagacaaac ttcctttcca ggatgaatcc agggaagcct 3720 taattcacgt gtaggggagg tcaggccact ggctaagtat atccttccac tccagctcta 3780 agatggtett aaattgtgat tatetatate eacttetgte teecteactg tgettggagt 3840 ttacctgatc actcaactag aaacagggga agattttatc aaattctttt ttttttttt 3900 ttttttttga gacagagtct cactctgttg cccaggctgg agtgcagtgg cgcagtctcg 3960 gctcactgca acctctgcct cccaggttca agtgattctc ctgcctcagc ctcctgagtt 4020 gctgggatta caggcatgca gcaccatgcc cagctaattt ttgtattttt agtagagatg 4080 gggtttcacc aatgtttgcc aggctggcct cgaactcctg acctggtgat ccacctgcct 4140 cagectecca aagtgetggg attacaggeg teagecaeeg egeceageca ettttgteaa 4200 attcttgaga cacagctcgg gctggatcaa gtgagctact ctggttttat tgaacagctg 4260 aaataaccaa ctttttggaa attgatgaaa tcttacggag ttaacagtgg aggtaccagg 4320 gctcttaaga gttcccgatt ctcttctgag actacaaatt gtgattttgc atgccacctt 4380 aatctttttt tttttttt taaatcgagg tttcagtctc attctatttc ccaggctgga 4440 gttcaatagc gtgatcacag ctcactgtag ccttgaactc ctggccttaa gagattctcc 4500 tgcttcggtc tcccaatagc taagactaca gtagtccacc accatatcca gataattttt 4560 aaattttttg gggggccggg cacagtggct cacgcctgta atcccaacac catgggaggc 4620 tgagatgggt ggatcacgag gtcaggagtt tgagaccagc ctgaccaaca tggtgaaact 4680 ctgtctctac taaaaaaaaa aaaaatagaa aaattagccg ggcgtggtgg cacacggcac 4740 ctgtaatccc agctactgag gaggctgagg caggagaatc acttgaaccc agaaggcaga 4800 ggttgcaatg agccgagatt gcgccactgc actccagcct gggtgacaga gtgagactct 4860 gtctcaaaaa aaaaaaattt ttttttttt tttgtagaga tggatcttgc tttgtttctc 4920 tggttggcct tgaactcctg gcttcaagtg atcctcctac cttggcctcg gaaagtgttg 4980 ggattacagg cgtgagccac catgactgac ctgtcgttaa tcttgaggta cataaacctg 5040 gctcctaaag gctaaaggct aaatatttgt tggagaaggg gcattggatt ttgcatgagg 5100

FIGURE 4D

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ccccagcccc	aagctt					5836

FIGURE 5A

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gcaagaagtg	aaggaaccac	ccctgcatca	aatgttttgc	atgggaagga	gaagggggtt	420
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acactggtgg	ggcatatgtg	tettagatte	tccctgaatt	cagtgtccct	gccatggcca	1380
gactctctac	tcaggcctgg	acatgctgaa	ataggacaat	ggccttgtcc	tctctcccca	1440
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FIGURE 5B

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FIGURE 5C

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	aacagaagca	atttggcctt	cctaaaattc	cacatcatat	catcatgatg	gagacagtgc	5040
	agacgccaat	gacaataaaa	agagggacct	ccgtcacccg	gtaaacatgt	ccacacaget	5100

FIGURE 5D

ccagcaagca	cccgtcttcc	cagtgaatca	ctgtaacctc	ccctttaatc	agccccaggc	5160
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cacgggaccc	tgctctcgtg	gcagatcagg	agagagtggg	acaccatgcc	aggcccccat	5580
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FIGURE 5E

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FIGURE 5F

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FIGURE 5G

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FIGURE 5H

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FIGURE 5I

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	atgacacttt					14940
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FIGURE 6A

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FIGURE 6D

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FIGURE 6C

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	aaattggtcc	tgctatgatt	tactcttggt	aagaacaggg	aaaatagaga	aaaatttaga	4620
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	acatttatct	ggctctttac	tagaacagct	ttcttgtttt	tggtgťtcta	gcttgtgtgc	4800
	cttacagttc	tactcttcaa	attattgtta	tgtgtatctc	atagttttcc	: ttcttttgag	4860
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FIGURE 6B

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FIGURE 6E

taactcaatg aaagctgtta tgctcatggc tatggtttat tacagcaaaa gaatagagat 6840 gaaaatctag caagggaaga gttgcatggg gcaaagacaa ggagagctcc aagtgcagag 6900 attectgttg ttttctccca gtggtgtcat ggaaagcagt atcttctcca tacaatgatg 6960 tgtgataata ttcagtgtat tgccaatcag ggaactcaac tgagccttga ttatattgga 7020 gettggttge acagacatgt egaceacett catggetgaa etttagtaet tageceetee 7080 agacgtctac agctgatagg ctgtaaccca acattgtcac cataaatcac attgttagac 7140 tatccagtgt ggcccaagct cccgtgtaaa cacaggcact ctaaacaggc aggatatttc 7200 aaaagettag agatgaeete eeaggagetg aatgeaaaga eetggeetet ttgggeaagg 7260 agaatccttt accgcacact ctccttcaca gggttattgt gaggatcaaa tgtggtcatg 7320 tgtgtgagac accagcacat gtctggctgt ggagagtgac ttctatgtgt gctaacattg 7380 ctgagtgcta agaaagtatt aggcatggct ttcagcactc acagatgctc atctaatcct 7440 cacaacatgg ctacagggtg ggcactacta gcctcatttg acagaggaaa ggactgtgga 7500 taagaagggg gtgaccaata ggtcagagtc attctggatg caaggggctc cagaggacca 7560 tgattagaca ttgtctgcag agaaattatg gctggatgtc tctgccccgg aaagggggat 7620 gcactttcct tgacccccta tctcagatct tgactttgag gttatctcag acttcctcta 7680 tgataccagg agcccatcat aatctctctg tgtcctctcc ccttcctcag tcttactgcc 7740 cactettece agetecatet ecagetggee aggtgtagee acagtaceta actetttgea 7800 gagaactata aatgtgtatc ctacagggga gaaaaaaaaa aagaactctg aaagagctga 7860 cattttaccg acttgcaaac acataagcta acctgccagt tttgtgctgg tagaactcat 7920 gagactectg ggteagagge aaaagatttt attacccaca getaaggagg eageatgaae 7980 tttgtgttca catttgttca ctttgccccc caattcatat gggatgatca gagcagttca 8040 ggtggatgga cacaggggtt tgtggcaaag gtgagcaacc taggcttaga aatcctcaat 8100 cttataagaa ggtactagca aacttgtcca gtctttgtat ctgacggaga tattatcttt 8160 ataattgggt tgaaagcaga cctactctgg aggaacatat tgtatttatt gtcctgaaca 8220 gtaaacaaat ctgctgtaaa atagacgtta actttattat ctaaggcagt aagcaaacct 8280 agatctgaag gcgataccat cttgcaaggc tatctgctgt acaaatatgc ttgaaaagat 8340 ggtccagaaa agaaaacggt attattgcct ttgctcagaa gacacacaga aacataagag 8400 aaccatggaa aattgtctcc caacactgtt cacccagagc cttccactct tgtctgcagg 8460 acagtettaa eateceatea ttagtgtgte taccaeatet ggetteaceg tgeetaacea 8520

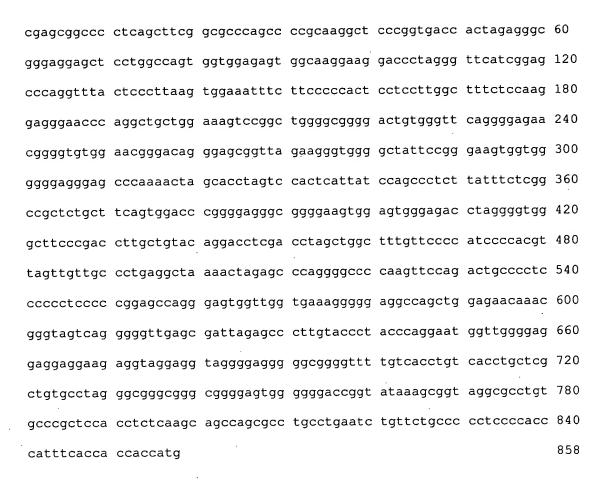
IGURE 6F

agatttctag gtccagttcc ccaccatgtt tggcagtgcc ccactgccaa ccccagaata 8580 agggagtgct cagaattccg aggggacatg ggtggggatc agaacttctg ggcttgagtg 8640 cagagggggc ccatactcct tggttccgaa ggaggaagag gctggaggtg aatgtccttg 8700 gaggggagga atgtgggttc tgaactctta aatccccaag ggaggagact ggtaaggtcc 8760 cagetteega ggtaetgaeg tgggaatgge etgagaggte taagaateee gtateetegg 8820 gaaggagggg ctgaaattgt gaggggttga gttgcagggg tttgttagct tgagactcct 8880 tggtgggtcc ctgggaagca aggactggaa ccattggctc cagggtttgg tgtgaaggta 8940 atgggatctc ctgattctca aagggtcaga ggactgagag ttgcccatgc tttgatcttt 9000 ccatctactc cttactccac ttgagggtaa tcacctactc ttctagttcc acaagagtgc 9060 gcctgcgcga gtataatctg cacatgtgcc atgtcccgag gcctggggca tcatccactc 9120 atcattcagc atctgcgcta tgcgggcgag gccggcgcca tgacgtcatg tagctgcgac 9180 tatecetgea gegegeetet eccgteacgt eccaaceatg gagetgtgga egtgegteee 9240 ctggtggatg tggcctgcgt ggtgccaggc cggggcctgg tgtccgataa agatcctaga 9300 accacaggaa accaggactg aaaggtgcta gagaatggcc atatgtcgct gtccatgaaa 9360 tctcaaggac ttctgggtgg agggcacagg agcctgaact tacgggtttg ccccagtcca 9420 ctgtcctccc aagtgagtct cccagatacg aggcactgtg ccagcatcag cttcatctgt 9480 accacatett gtaacaggga etacceagga eeetgatgaa eaccatggtg tgtgcaggaa 9540 gagggggtga aggcatggac tcctgtgtgg tcagagccca gagggggcca tgacgggtgg 9600 ggaggagget gtggactgge tegagaagtg ggatgtggtt gtgtttgatt teetttggee 9660 agataaagtg ctggatatag cattgaaaac ggagtatgaa gaccagttag aatggagggt 9720 caggttggag ttgagttaca gatggggtaa aattctgctt cggatgagtt tggggattgg 9780 caatctaaag gtggtttggg atggcatggc tttgggatgg aaataggttt gtttttatgt 9840 tggctgggaa gggtgtgggg attgaattgg ggatgaagta ggtttagttt tggagataga 9900 atacatggag ctggctattg catgcgagga tgtgcattag tttggtttga tctttaaata 9960 aaggaggcta ttagggttgt cttgaattag attaagttgt gttgggttga tgggttgggc 10020 ttgtgggtga tgtggttgga ttgggctgtg ttaaattggt ttgggtcagg ttttggttga 10080 ggttatcatg gggatgagga tatgcttggg acatggattc aggtggttct cattcaagct 10140 gaggcaaatt teettteaga eggteattee agggaaegag tggttgtgtg ggggaaatea 10200

FIGURE 6G

ggccactggc tgtgaatatc cctctatcct ggtcttgaat tgtgattatc tatgtccatt 10260 ctgtctcctt cactgtactt ggaattgatc tggtcattca gctggaaatg ggggaagatt 10320 ttgtcaaatt cttgagacac agctgggtct ggatcagcgt aagccttcct tctggtttta 10380 ttgaacagat gaaatcacat ttttttttc aaaatcacag aaatcttata gagttaacag 10440 tggactetta taataagagt taacaccagg actettatte ttgattettt tetgagacae 10500 caaaatgaga tttctcaatg ccaccctaat tcttttttt ttttttttt ttttttgagac 10560 acagtctggg tcttttgctc tgtcactcag gctggagcgc agtggtgtga tcatagctca 10620 ctgaaccctt gacctcctgg acttaaggga tcctcctgct tcagcctcct gagtagatgg 10680 ggctacaggt gcttgccacc acacctggct aattaaattt ttttttttt tttgtagaga 10740 aagggtetea etttgttgee etggetgate ttgaacttet gaetteaagt gattetteag 10800 ccttggactc ccaaagcact gggattgctg gcatgagcca ctcaccgtgc ctggcttgca 10860 gcttaatctt ggagtgtata aacctggctc ctgatagcta gacatttcag tgagaaggag 10920 gcattggatt ttgcatgagg acaattctga cctaggaggg caggtcaaca ggaatccccg 10980 ctgtacctgt acgttgtaca ggcatggaga atgaggagtg aggaggccgt accggaaccc 11040 catattgttt agtggacatt ggattttgaa ataataggga acttggtctg ggagagtcat 11100 atttctggat tggacaatat gtggtatcac aaggttttat gatgagggag aaatgtatgt 11160 ggggaaccat tttctgagtg tggaagtgca agaatcagag agtagctgaa tgccaacgct 11220 tctatttcag gaacatggta agttggaggt ccagctctcg ggctcagacg ggtataggga 11280 ccaggaagtc tcacaatccg atcattctga tatttcaggg catattaggt ttggggtgca 11340 aaggaagtac ttgggactta ggcacatgag actttgtatt gaaaatcaat gattggggct 11400 ggccgtggtg ctcacgcctg taatctcatc actttgggag accgaagtgg gaggatggct 11460 tgatctcaag agttggacac cagcctaggc aacatggcca gaccctctct ctacaaaaaa 11520 attaaaaatt agctggatgt ggtggtgcat gcttgtggtc tcagctatcc tggaggctga 11580 gacaggagaa tcggttgagt ctgggagttc aaggctacag ggagctgcga tcacgccgct 11640 gcactccage etgggaaaca gagtgagact gtetcagaat ttttttaaaa aagaatcagt 11700 gatcatccca acccctgttg ctgttcatcc tgagcctgcc ttctctggct ttgttcccta 11760 gatcacatct ccatgatcca taggccctgc ccaatctgac ctcacaccgt gggaatgcct 11820 ccagactgat ctagtatgtg tggaacagca agtgctggct ctccctcccc ttccacagct 11880 ctgggtgtgg gagggggttg tccagcctcc agcagcatgg ggagggcctt ggtcagcatc 11940

FIGURE 7





taggtgccaa cagggcaagg gcggggtcct ggagaatgaa ggctttatag ggctcctcag 12000 ggaggcccc cagcccaaa ctgcaccacc tggccgtga caccggt 12047



FIGURE 8



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ctgattggag gaatggataa tagtcatcat gtttaaacat ctaccattcc agttaagaaa 180
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gaacctattt gtatactaga tgacacaatg tcaatgtctg tgtacaactg ccaactggga 360
tgcaagacac tgcccatgcc aatcatcctg aaaagcagct ataaaaagca ggaagctact 420
ctgcaccttg tcagtgaggt ccagatacct acag 454





FIGURE 9

g at Me	ig ac et Th 1	ec go nr Gl	gc to Ly Se	ca ad er Th	ec at nr II 5	ic go le Al	eg ed la Pi	cc ad ro Th	nr Th	eg ga nr As 10	ac ta sp Ty	at co yr A:	gc aa rg As	sn Th	cc act nr Thr 15	49
gct Ala	acc Thr	gga Gly	cta Leu 20	aca Thr	tct Ser	gcc Ala	cta Leu	aat Asn 25	tta Leu	ccc Pro	caa Gln	gtt Val	cat His 30	gcc Ala	ttt Phe	97
gtc Val	aat Asn	gac Asp 35	tgg Trp	gcg Ala	agc Ser	ttg Leu	gac Asp 40	atg Met	tgg Trp	tgg Trp	ttt Phe	tcc Ser 45	ata Ile	gcg Ala	ctt Leu	145
atg Met	ttt Phe 50	gtt Val	tgc Cys	ctt Leu	att Ile	att Ile 55	atg Met	tgg Trp	ctt Leu	att Ile	tgt Cys 60	tgc Cys	cta Leu	aag Lys	cgc Arg	193
aga Arg 65	cgc Arg	gcc Ala	aga Arg	ccc Pro	ccc Pro 70	atc Ile	tat Tyr	agg Arg	cct Pro	atc Ile 75	att Ile	gtg Val	ctc Leu	aac Asn	cca Pro 80	241
cac His	aat Asn	gaa Glu	aaa Lys	att Ile 85	cat. His	aga Arg	ttg Leu	gac Asp	ggt Gly 90	ctg Leu	aaa Lys	cca Pro	tgt Cys	tct Ser 95	ctt Leu	289
ctt Leu	tta Leu	cag Gln	tat Tyr 100	gat Asp	taa											307